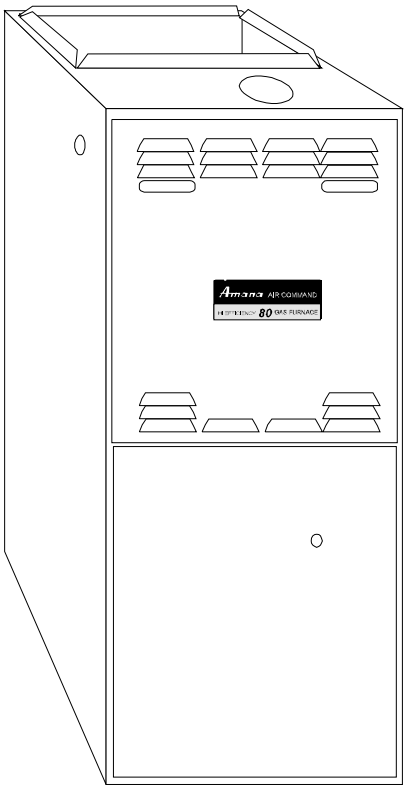
Model and Manufacturing numbers listed on page 3.

Technical Information

40" 80% Gas Furnaces
GUIS, GCIS

- Refer to Service Manual RS6600001 Rev. 1 for installation, operation, and troubleshooting information.
- All safety information must be followed as provided in the Service Manual.
- Refer to the appropriate Parts Catalog for part number information.



This manual replaces RT6621005 Rev. 0 April 2000.

REV. 1 - Corrections made to manual, no new models added.

Heating & Air Conditioning
Amana®
Built Better Than It Has To Be

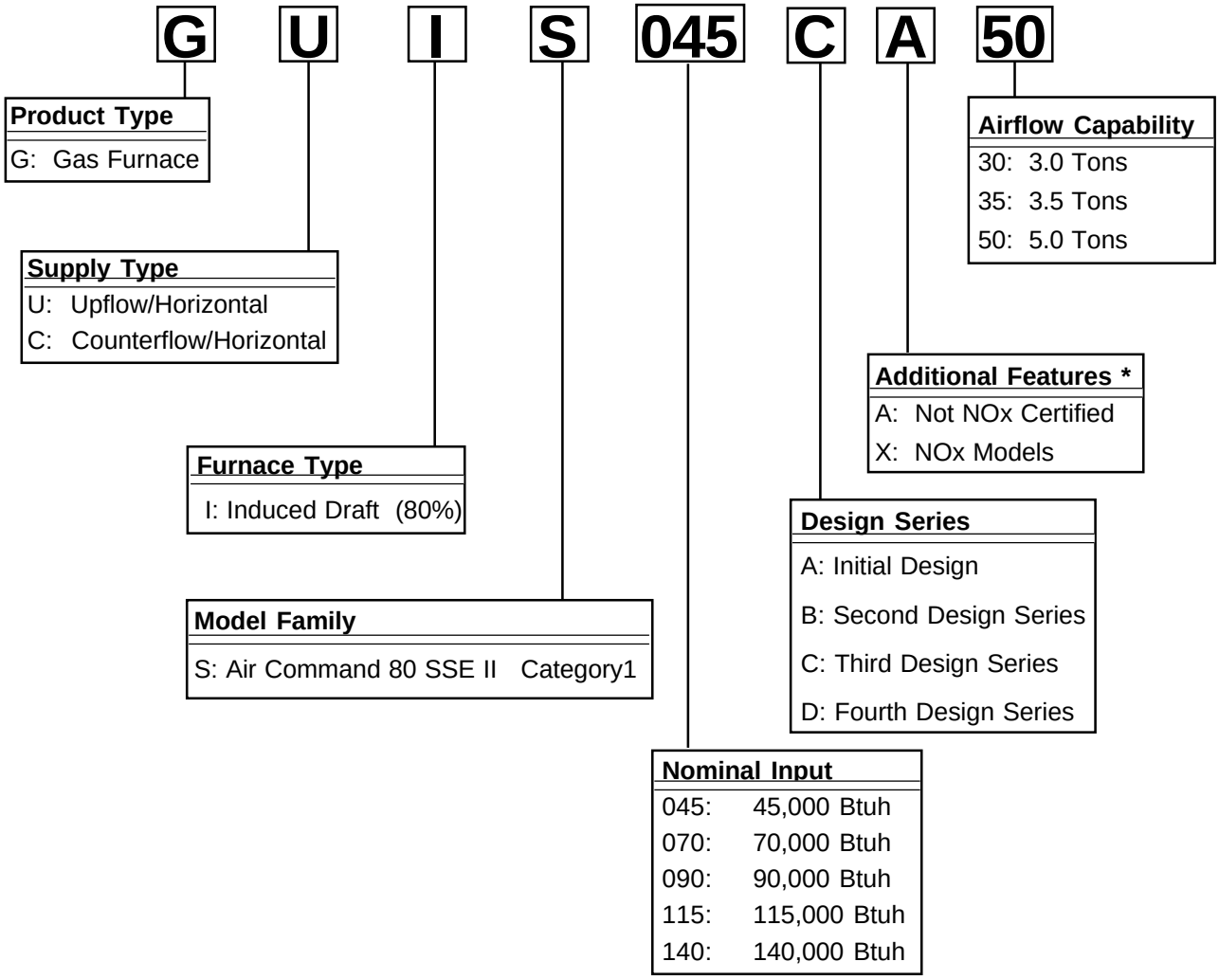
This manual is to be used by qualified HVAC technicians only. Amana does not assume any responsibility for property damage or personal injury due to improper service procedures performed by an unqualified person.

RT6621005
Revision 1
September 2000

PRODUCT IDENTIFICATION

The model and manufacturing number are used for positive identification of component parts used in manufacturing. When engineering and manufacturing changes take place where interchangeability of components are affected, the manufacturing number will change.

It is very important to use the model and manufacturing numbers at all times when requesting service or parts information.



WARNING **IF REPAIRS ARE ATTEMPTED BY UNQUALIFIED PERSONS, DANGEROUS CONDITIONS (SUCH AS EXPOSURE TO ELECTRICAL SHOCK) MAY RESULT. THIS MAY CAUSE SERIOUS INJURY OR DEATH.**

CAUTION **AMANA WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SERVICE OR SERVICE PROCEDURES. IF YOU PERFORM SERVICE ON YOUR OWN PRODUCT, YOU ASSUME RESPONSIBILITY FOR ANY PERSONAL INJURY OR PROPERTY DAMAGE WHICH MAY RESULT.**

PRODUCT IDENTIFICATION

The model and manufacturing number are used for positive identification of component parts used in manufacturing. When engineering and manufacturing changes take place where interchangeability of components are affected, the manufacturing number will change.

It is very important to use the model and manufacturing numbers at all times when requesting service or parts information.

MODEL	M/N
GUIS070CA35	P1211003F
GUIS090CA30	P1211004F
GUIS090CA50	P1211005F
GUIS115CA50	P1211007F
GUIS140CA50	P1211008F
GUIS070CX35	P1211103F
GUIS090CX30	P1211104F
GUIS090CX50	P1211105F
GUIS115CX50	P1211107F
GUIS070DA35	P1227103F
GUIS070CA35	P1229803F
GUIS090CA30	P1229804F
GUIS090CA50	P1229805F
GUIS115CA50	P1229807F
GUIS070CA35	P1229903F
GUIS090CA50	P1229905F
GUIS115CA50	P1229907F

MODEL	M/N
GUIS070CX35	P1230003F
GUIS090CX30	P1230004F
GUIS090CX50	P1230005F
GUIS115CX50	P1230007F
GUIS070CX35	P1230103F
GUIS090CX50	P1230105F
GUIS115CX50	P1230107F
GCIS070CX35	P1211203F
GCIS090CX50	P1211205F
GCIS070CX35	P1230603F
GCIS090CX50	P1230605F
GCIS070CX35	P1230703F
GCIS090CX50	P1230705F

PRODUCT DESIGN

General Operation

This GUIS/GCIS furnace is equipped with an electronic ignition device to light the burners and an induced draft blower to exhaust combustion products.

An interlock switch prevents furnace operation if the blower door is not in place. Keep the blower access doors in place except for inspection and maintenance.

This furnace is also equipped with a self-diagnosing electronic control module. In the event a furnace component is not operating properly, the control module LED will flash on and off in a factory-programmed sequence, depending on the problem encountered. This light can be viewed through the observation window in the blower access door. Refer to the *Troubleshooting Chart* for further explanation of the LED codes and *Abnormal Operation - Integrated Ignition Control* section in the Service Instructions for an explanation of the possible problem.

The rated heating capacity of the furnace should be greater than or equal to the total heat loss of the area to be heated. The total heat loss should be calculated by an approved method or in accordance with “ASHRAE Guide” or “Manual J-Load Calculations” published by the Air Conditioning Contractors of America.

*Obtain from: American National Standards Institute 1430 Broadway New York, NY 10018

Location Considerations

- The furnace should be as centralized as is practical with respect to the air distribution system.
- Do not install the furnace directly on carpeting, tile, or combustible material other than wood flooring.
- When suspending the furnace from rafters or joists, use 3/8" threaded rod and 2” x 2” x 3/8” angle as shown in the Installation and Service Instructions. The length of the rod will depend on the application and clearance necessary.
- When installed in a residential garage, the furnace must be positioned so the burners and ignition source are located not less than 18 inches (457 mm) above the floor and protected from physical damage by vehicles.

Accessibility Clearances (Minimum)

MINIMUM CLEARANCES TO COMBUSTIBLE MATERIALS (INCHES)				
	UPFLOW	**COUNTERFLOW**	**HORIZONTAL LEFT**	**HORIZONTAL RIGHT**
FRONT	6[1]	6[1]	Alcove	Alcove
RIGHT	0	0	6	12
LEFT	0	0	12	6
REAR	0	0	0	0
TOP	1	1	6	6
FLUE	6[2]	6[2]	6[2]	6[2]
FLOOR	C	NC	C	C

[1] = 3 inch when using Type B-1 vent is used.

[2] = 1 inch when Type B-1 vent is used.

C = If placed on combustible floor, floor MUST be wood ONLY.

NC = If placed on combustible floor, floor MUST be wood ONLY.

Counterflow installations on a combustible floor only when installed on special base ASB01.

36" at front is required for servicing or cleaning.

Note: In all cases accessibility clearance shall take precedence over clearances from the enclosure where accessibility clearances are greater. All dimensions are given in inches.

PRODUCT DESIGN

High Altitude Derate

When this furnace is installed at high altitude, the appropriate High Altitude orifice kit must be installed. This is required due to the natural reduction in the density of both the gas fuel and combustion air as altitude increases. The kit will provide the proper design certified input rate within the specified altitude range.

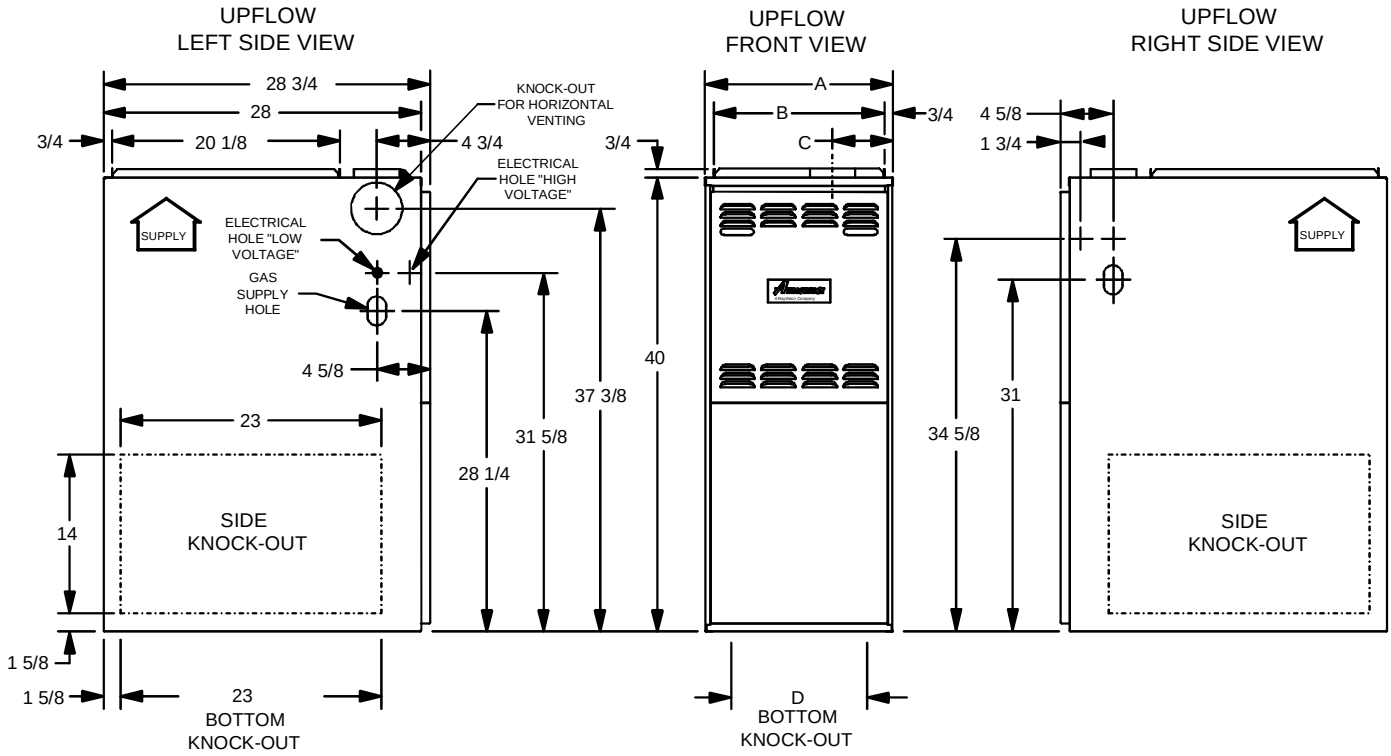
PROPANE AND HIGH ALTITUDE KITS				
MODEL NUMBER	**0 to 7000 ft.**	**3001 to 7000 ft.**	**7001 to 8500 ft.**	**7001 to 8500 ft.**
GUIS070	LPTK09 Propane Conversion Kit (#55 Orifice)	HATS01 High Altitude Natural Gas Kit (#44 Orifice)	HATS06 High Altitude Orifice Kit (#45 Orifice)	HALP09 High Altitude Propane Gas Kit (#56 Orifice)
GCIS070	LPTK09 Propane Conversion Kit (#55 Orifice)	HATS05 High Altitude Natural Gas Kit (#44 Orifice)	HATS09 High Altitude Orifice Kit (#45 Orifice)	HALP09 High Altitude Propane Gas Kit (#56 Orifice)
GUIS090	LPTK09 Propane Conversion Kit (#55 Orifice)	HATS02 High Altitude Natural Gas Kit (#44 Orifice)	HATS06 High Altitude Orifice Kit (#45 Orifice)	HALP09 High Altitude Propane Gas Kit (#56 Orifice)
GCIS090	LPTK09 Propane Conversion Kit (#55 Orifice)	HATS05 High Altitude Natural Gas Kit (#44 Orifice)	HATS09 High Altitude Orifice Kit (#45 Orifice)	HALP09 High Altitude Propane Gas Kit (#56 Orifice)
GUIS115	LPTK09 Propane Conversion Kit (#55 Orifice)	HATS03 High Altitude Natural Gas Kit (#44 Orifice)	HATS07 High Altitude Orifice Kit (#45 Orifice)	HALP09 High Altitude Propane Gas Kit (#56 Orifice)
GUIS140	LPTK09 Propane Conversion Kit (#55 Orifice)	HATS04 High Altitude Natural Gas Kit (#44 Orifice)	HATS08 High Altitude Orifice Kit (#45 Orifice)	HALP09 High Altitude Propane Gas Kit (#56 Orifice)

Note: For propane gas installations, the LPTK09 conversion kit has the required orifices for installations up to 7,000 feet. For Propane gas installations between 3,001 and 7,000 feet, the HATS kits listed above are required for the pressure switch change.

High altitude kits are purchased according to the installation altitude and usage of either natural or propane gas. Refer to the chart above for a tabular listing of appropriate altitude ranges and corresponding manufacturer's high altitude Natural Gas and Propane Gas kits. For a tabular listing of appropriate altitude ranges and corresponding manufacturer's High Altitude Pressure Switch kits, refer to either the *Pressure Switch Trip Points & Usage Chart* in this manual or the *Accessory Charts* in Service Instructions.

PRODUCT DIMENSIONS

GUIS 80% Upflow/Horizontal



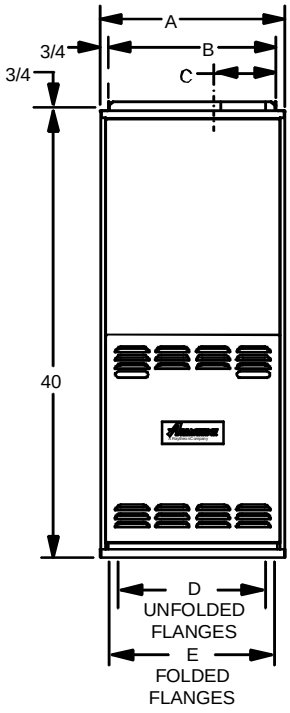
GUIS DIMENSIONS						
FURNACE MODEL	**A**	**B**	**C**	**D**	**E**	**Minimum Vent Diameter**
GUIS070	16-1/2	15	5-1/4	12-5/8	4	4
GUIS090	20-1/2	19	7-1/4	14-5/8	4	4
GUIS115 GUIS140	24-1/2	23	9-1/4	18-5/8	4	5

All dimensions are in inches.

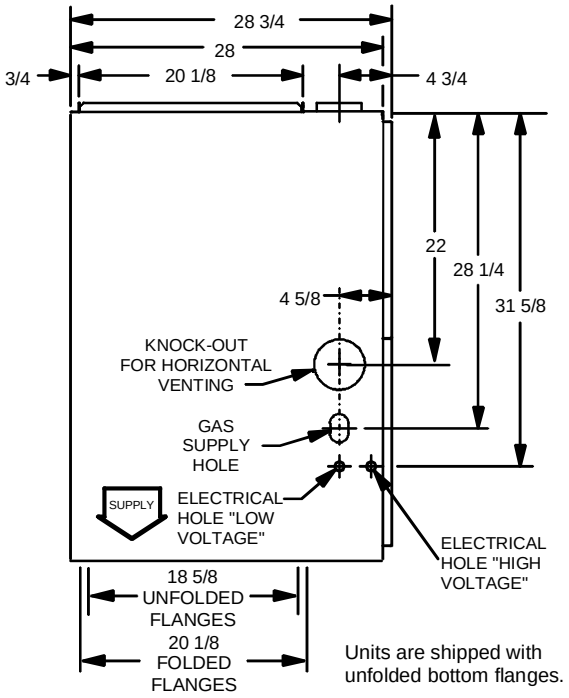
PRODUCT DIMENSIONS

GCIS 80% Counterflow/Horizontal

COUNTERFLOW
FRONT VIEW

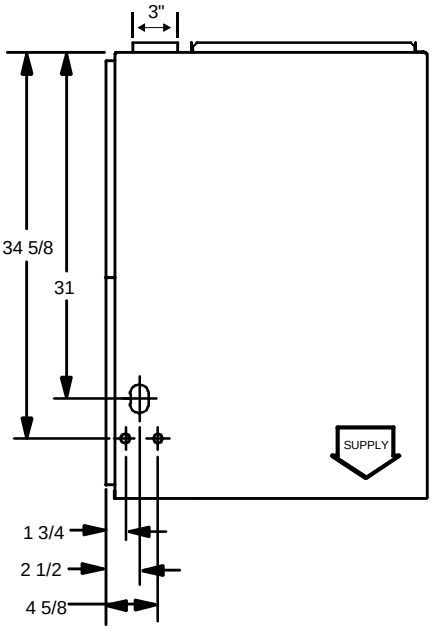


COUNTERFLOW
LEFT SIDE VIEW



Units are shipped with unfolded bottom flanges.

COUNTERFLOW
RIGHT SIDE VIEW



GCIS DIMENSIONS						
FURNACE MODEL	**A**	**B**	**C**	**D Unfolded**	**E Folded**	**Minimum Vent Diameter**
GCIS070	16-1/2	15	5/3/8	13-1/2	15	4
GCIS090	20-1/2	19	7-3/8	17-1/2	19	4

All dimensions are in inches.

PRODUCT DESIGN

PRESSURE SWITCH TRIP POINTS AND USAGE CHART				
MODEL	NEGATIVE PRESSURE ID BLOWER WITH FLUE NOT FIRING TYPICAL SEA LEVEL DATA		NEGATIVE PRESSURE ID BLOWER WITH FLUE FIRING TYPICAL SEA LEVEL DATA	
	LOW FIRE	HIGH FIRE	LOW FIRE	HIGH FIRE
GUIS070**35	-0.50	-0.90	-0.52	-0.85
GUIS090**30/50	-0.42	-0.9	-0.44	-0.79
GUIS115**50	-0.42	-0.85	-0.42	-0.71
GUIS140**50	-0.37	-0.85	-0.39	-0.71
GCIS070**35	-0.32	-0.80	-0.37	-0.60
GCIS090**50	-0.32	-0.80	-0.37	-0.60

PRESSURE SWITCH TRIP POINTS AND USAGE CHART															
MODEL	0 to 3,000 feet					3,001 to 7,000 feet					7,001 to 8,500 feet				
	TRIP POINT ID BLOWER PRESSURE SWITCH		ID BLOWER PRESSURE SWITCH PART #	PS1 LABEL COLOR	PS2 LABEL COLOR	TRIP POINT ID BLOWER PRESSURE SWITCH		HIGH ALTITUDE KIT	PS1 LABEL COLOR	PS2 LABEL COLOR	TRIP POINT ID BLOWER PRESSURE SWITCH		HIGH ALTITUDE KIT	PS1 LABEL COLOR	PS2 LABEL COLOR
	LOW FIRE	HIGH FIRE				LOW FIRE	HIGH FIRE				LOW FIRE	HIGH FIRE			
GUIS070**35	-0.45	-0.80	11177103	DK BLUE	ORANGE	-0.37	-0.66	HATS01 11177105	PURPLE	WHITE	-0.32	-0.55	HATS06 11177108	RED	GRAY
GUIS090**30/50	-0.37	-0.74	11177102	PURPLE	YELLOW	-0.37	-0.60	HATS02 11177106	PURPLE	LT BLUE	-0.32	-0.55	HATS06 11177108	RED	GRAY
GUIS115**50	-0.37	-0.66	11177105	PURPLE	WHITE	-0.37	-0.55	HATS03 11177107	PURPLE	GRAY	-0.32	-0.46	HATS07 11177110	RED	PINK
GUIS140**50	-0.32	-0.66	11177104	RED	WHITE	-0.32	-0.55	HATS04 11177108	RED	GRAY	-0.27	-0.46	HATS08 11177109	GREEN	PINK
GCIS070**35	-0.27	-0.55	11177101	GREEN	GRAY	-0.27	-0.46	HATS05 11177109	GREEN	GRAY	-0.23	-0.37	HATS09 11177111	GRAY	DK BLUE
GCIS090**50	-0.27	-0.55	11177101	GREEN	GRAY	-0.27	-0.46	HATS05 11177109	GREEN	GRAY	-0.23	-0.37	HATS09 11177111	GRAY	DK BLUE

Note: All installations above 3,000 ft. require a pressure switch change. For installations in Canada the Amana 80% furnace is certified only to 4500.ft.
Note: Replacement pressure switch number is listed below high altitude kit number.
Note: All negative pressure readings are in inches of water column (" w.c.).

PRODUCT DESIGN

T.O.D. PRIMARY LIMIT					
Part Number	10728306	10728319	10728325	10728330	10728331
Open Setting °F	200	170	170	200	160
Style	2	2	3	3	3
Sleeve Colors	Black	Blue	Blue	Tan	Brown
GUIS070**35					**1**
GUIS090**30/50				**1**	
GUIS115**50				**1**	
GUIS140**50			**1**		
GCIS070**35	**1**				
GCIS090**50		**1**			

ROLLOUT LIMIT SWITCHES				
Part Number	10123508 or 10123527	10123509 or 10123531	10123510 or 10123529	10123512 or 10123531
Open Setting °F	260	275	300	325
Color	BROWN	PINK	LT GREEN	LT PURPLE
GUIS070**35	**1**			
GUIS090**30/50			**1**	
GUIS115**50				**1**
GUIS140**50				**1**
GCIS070**35		**1**		
GCIS090**50				**1**

AUXILIARY LIMIT SWITCHES		
Part Number	10123506 or 10123525	10123516 or 10123535
Open Setting °F	160	150
Color	Orange	Red
GUIS070**35		**1**
GUIS090**30/50		**1**
GUIS115**50	**1**	
GUIS140**50	**1**	
GCIS070**35	**1**	
GCIS090**50	**1**	

PRODUCT DESIGN

Coil Matches:

A large array of Amana coils are available for use with the GUIS and GCIS furnaces, in either upflow, counterflow, or horizontal applications. These coils are available in both cased and uncased models, with or without a TXV expansion device. These 80% furnaces match up with the existing Amana coils as shown in the chart below.

Btuh Input	Cabinet Width	Air Flow (tons)	CCA_F*C Cased A-Coils	CCA_FSC Uncased A-Coils	CHA_TCC Cased TXV A-Coils	CHA_TSC Uncased TXV A-Coils	CCF_F*C Horiz. A-Coils	CHF_TCC Horiz. A-Coils
70,000	16 1/2"	1 1/2 - 4	CCA18FCC CCA24FCC CCA30FCC CCA36FCC CCA42FCC	CCA18FSC CCA24FSC CCA30FSC CCA36FSC CCA42FSC	CHA18TCC CHA24TCC CHA30TCC CHA36TCC	CHA18TSC CHA24TSC CHA30TSC CHA36TSC	CCF24FCC CCF30FCC	CHF18TCC CHF24TCC CHF30TCC
90,000	20 1/2"	2 - 5	CCA30FDC CCA36FDC CCA42FDC CCA48FCC	CCA48FSC	CHA42TCC	CHA42TSC	CCF24FDC CCF36FDC CCF42FCC CCF48FCC	CHF36TCC CHF42TCC
115,000	24 1/2"	2 1/2 - 5	CCA36FKC CCA48FDC CCA54FCC CCA57FCC CCA60FCC	CCA54FSC CCA57FSC CCA60FSC	CHA48TCC CHA54TCC CHA57TCC CHA60TCC	CHA48TSC CHA54TSC CHA57TSC CHA60TSC	CCF48FDC CCF60FCC CCF61FCC	CHF48TCC CHF60TCC

Thermostats:

The following Amana Thermostats are suggested for use with the GUIS and GCIS Furnace Models:

Thermostats (Two-Stage Applications)								
Thermostat	Man/Auto	Programmable	Cool	Heat	Batt. Powered	Batt. Bkup*	Shape	Color
1217701	Man. Changeover	No	2	2	No	No	Rectangular	Beige
1213407	Man. Changeover	Yes	2	2	No	Yes	Rectangular	White

*1213407 is 24V powered with battery backup.

Thermostats (Dual Fuel Applications)								
Thermostat	Man/Auto	Programmable	Cool	Heat	Batt. Powered	Batt. Bkup*	Shape	Color
1213406	Man. Or Auto	Yes	2	3	No	Yes	Rectangular	White

*1213406 is 24V powered with battery backup.

Note: The above thermostat 1213406 is the recommended model for the GUIS and GCIS furnaces when used with a heat pump in a fossil fuel application. It is not for use with the GUIS or GCIS furnace as a sole heating source.

FURNACE SPECIFICATIONS

MODEL	GUIS070CA35 GUIS070CX35 GUIS070DA35	GUIS090CA30 GUIS090CX30	GUIS090CA50 GUIS090CX50	GUIS115CA50	GUIS140CA50
Btuh Input (US) High Fire	69,000	92,000	92,000	115,000	138,000
Output (US) High Fire	55,200	73,600	73,600	92,000	110,400
Btuh Input (US) Low Fire	48,000	64,000	64,000	80,000	96,000
Output (US) Low Fire	38,400	51,200	51,200	64,000	76,800
A.F.U.E.	80%	80%	80%	80%	80%
Rated External Static (" w.c.)	.10 - .50	.10 - .50	.10 - .50	.10 - .50	.10 - .50
Temperature Rise (°F)	30 - 60	35 - 65	35 - 65	35 - 65	45 - 75
High Stage Pressure Switch Trip Point (" w.c.)	-0.80	-0.74	-0.74	-0.66	-0.66
Low Stage Pressure Switch Trip Point (" w.c.)	-0.45	-0.37	-0.37	-0.37	-0.32
Blower Wheel (D" x W")	10 X 6	10 X 8	10 X 8	10 X 9	10 X 9
Blower Horsepower	1/2	1/2	1/2	3/4	3/4
Blower Speeds	4	4	4	4	4
Max CFM @ 0.5 E.S.P.	1450	1380	1975	1985	2050
Power Supply	115-60-1	115-60-1	115-60-1	115-60-1	115-60-1
Minimum Circuit Ampacity (MCA)	10.9	8.0	14.4	13.5	14.4
Maximum Overcurrent Device	15	15	15	15	15
Transformer (VA)	40	40	40	40	40
Heat Anticipator (Amps)	0.7	0.7	0.7	0.7	0.7
Primary Limit Setting (°F)	230	220	170	190	160
Auxiliary Limit Setting (°F)	160	160	160	160	160
Rollout Limit Setting (°F)	260	300	300	325	325
Fan Delay On	30 secs.	30 secs.	30 secs.	30 secs.	30 secs.
Off Heating *	90 secs.	90 secs.	90 secs.	90 secs.	90 secs.
Off Cooling	45 secs.	45 secs.	45 secs.	45 secs.	45 secs.
Gas Supply Pressure (Natural/Propane) ("w.c.)	7 / 11	7 / 11	7 / 11	7 / 11	7 / 11
Manifold Pressure (Natural/Propane) High Stage (" w.c.)	3.5 / 10	3.5 / 10	3.5 / 10	3.5 / 10	3.5 / 10
Manifold Pressure (Natural/Propane) Low Stage ("w.c.)	1.9 / 6.0	1.9 / 6.0	1.9 / 6.0	1.9 / 6.0	1.9 / 6.0
Orifice Size (Natural/Propane)	#43 / #55	#43 / #55	#43 / #55	#43 / #55	#43 / #55
Number of Burners	3	4	4	5	6
Vent Connector Diameter (inches)	4	4	4	4	4
Shipping Weight (lbs.)	152	169	178	194	198

* Off Heating - This fan delay timing is adjustable (60, 90, 120 or 180 seconds), 90 seconds as shipped.

1. These furnaces are manufactured for natural gas operation. Optional kits are available for conversion to propane gas operation.
2. For elevations above 2000 feet the rating should be reduced by 4% for each 1000 feet above sea level. The furnace must not be derated, orifice changes should only be made if necessary for altitude.
3. The total heat loss from the structure as expressed in TOTAL BTU/HR must be calculated by the manufacturers method in accordance with the "A.S.H.R.A.E. GUIDE" or "MANUAL J-LOAD CALCULATIONS" published by the AIR CONDITIONING CONTRACTORS OF AMERICA. The total heat loss calculated should be equal to or less than the heating capacity. Output based on D.O.E. test procedures, steady state efficiency times output.
4. Minimum Circuit Ampacity calculated as: (1.25 x Circulator Blower Amps) + I.D. Blower Amps.

FURNACE SPECIFICATIONS

MODEL	GCIS070CX35	GCIS090CX50
Btuh Input (US) High Fire	69,000	92,000
Output (US) High Fire	55,200	73,600
Btuh Input (US) Low Fire	48,000	64,000
Output (US) Low Fire	38,400	51,200
A.F.U.E.	80%	80%
Rated External Static (" w.c.)	.10 - .50	.10 - .50
Temperature Rise (°F)	35 - 65	45 - 75
High Stage Pressure Switch Trip Point (" w.c.)	-0.55	-0.55
Low Stage Pressure Switch Trip Point (" w.c.)	-0.27	-0.27
Blower Wheel (D" x W")	10 X 6	10 X 8
Blower Horsepower	1/2	3/4
Blower Speeds	4	4
Max CFM @ 0.5 E.S.P.	1366	1780
Power Supply	115-60-1	115-60-2
Minimum Circuit Ampacity (MCA)	10.2	14.2
Maximum Overcurrent Device	15	15
Transformer (VA)	40	40
Heat Anticipator (Amps)	0.7	0.7
Primary Limit Setting (°F)	190	160
Auxiliary Limit Setting (°F)	160	160
Rollout Limit Setting (°F)	275	275
Fan Delay On	30 secs.	30 secs.
Off Heating *	90 secs.	90 secs.
Off Cooling	45 secs.	45 secs.
Gas Supply Pressure (Natural/Propane) ("w.c.)	7 / 11	7 / 11
Manifold Pressure (Natural/Propane) High Stage ("w.c.)	3.5 / 10	3.5 / 10
Manifold Pressure (Natural/Propane) Low Stage ("w.c.)	1.9 / 6.0	1.9 / 6.0
Orifice Size (Natural/Propane)	#43 / #55	#43 / #55
Number of Burners	3	4
Vent Connector Diameter	3	3
Shipping Weight (lbs.)	152	178

* Off Heating - This fan delay timing is adjustable (60, 90, 120 or 180 seconds), 90 seconds as shipped.

1. These furnaces are manufactured for natural gas operation. Optional kits are available for conversion to propane gas operation.
2. For elevations above 2000 feet the rating should be reduced by 4% for each 1000 feet above sea level. The furnace must not be derated, orifice changes should only be made if necessary for altitude.
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4. Minimum Circuit Ampacity calculated as: (1.25 x Circulator Blower Amps) + I.D. Blower Amps.

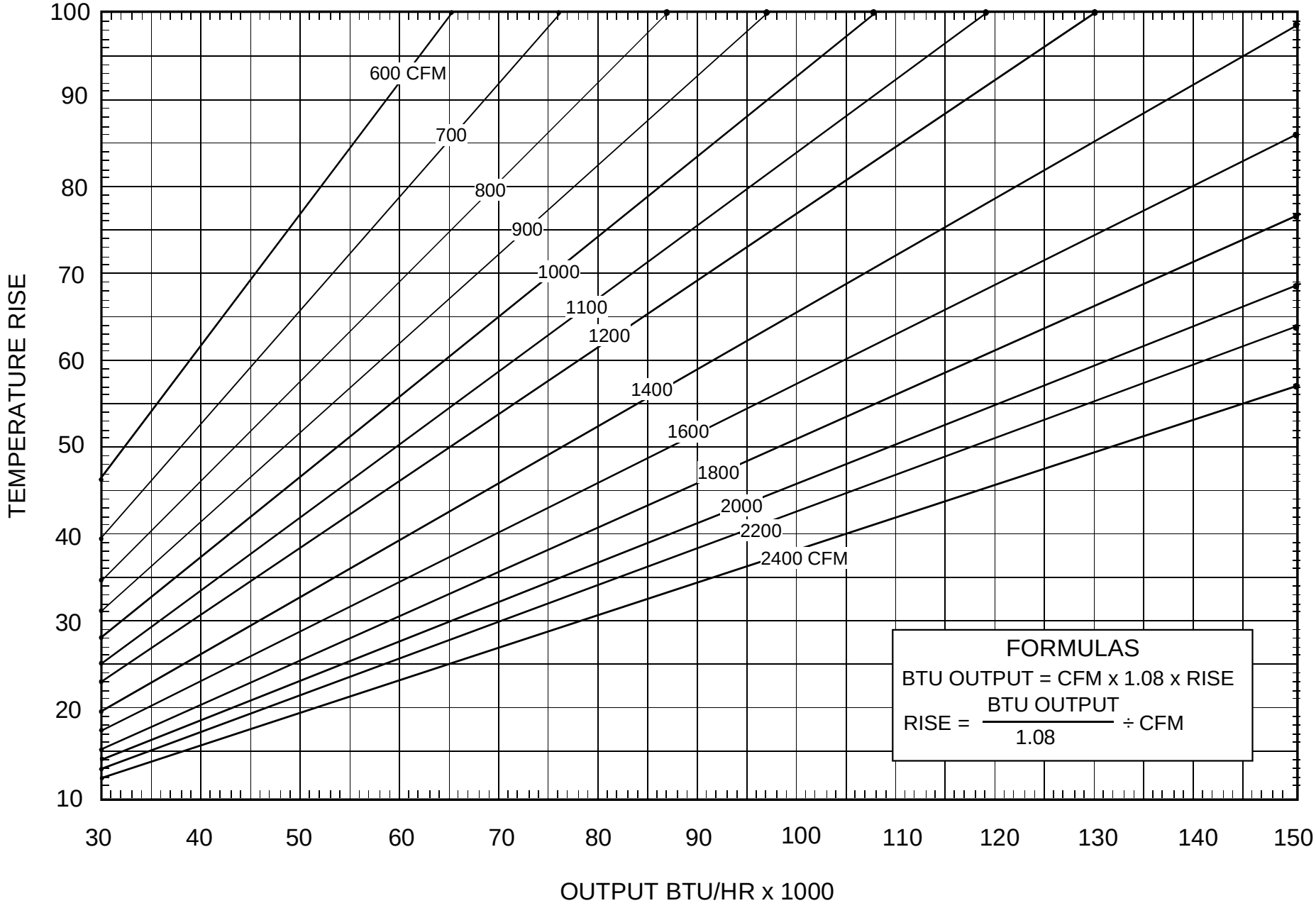
BLOWER PERFORMANCE SPECIFICATIONS

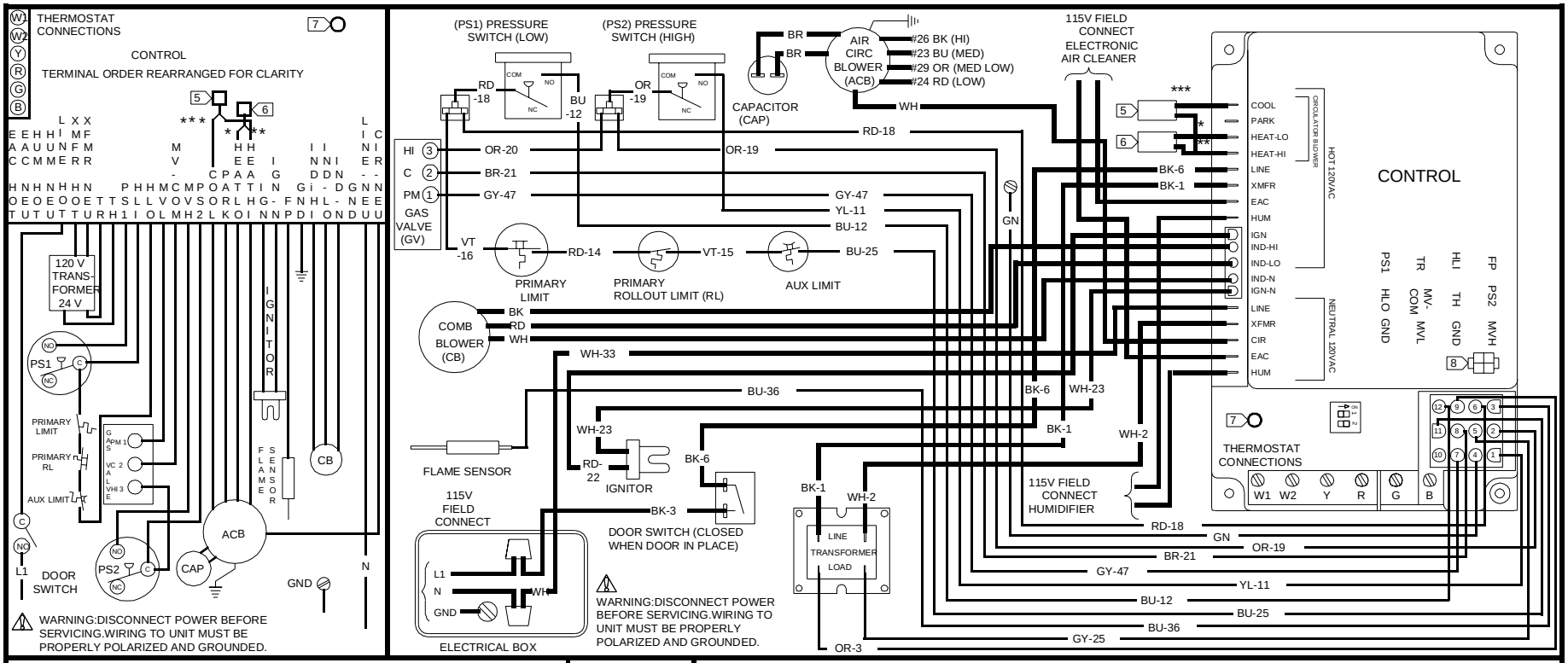
(CFM & Temperature Rise vs. External Static Pressure)																	
Model (Heating Speed As Shipped)	MOTOR SPEED	TONS AC @ 0.5" ESP	External Static Pressure, Inches Water Column														
			0.1			0.2			0.3			0.4			0.5			0.6
			CFM	RISE HIGH FIRE	RISE LOW FIRE	CFM	RISE HIGH FIRE	RISE LOW FIRE	CFM	RISE HIGH FIRE	RISE LOW FIRE	CFM	RISE HIGH FIRE	RISE LOW FIRE	CFM	RISE HIGH FIRE	RISE LOW FIRE	CFM
GUIS070_35	HIGH	3.5	1695	30	---	1625	31	---	1580	32	---	1520	34	---	1450	35	---	1365
(30-60)	MED	3.0	1485	34	---	1450	35	---	1400	37	---	1350	38	---	1295	39	---	1235
High Fire: Med-Lo	MED-LO	3.0	1235	41	---	1200	43	30	1180	43	30	1140	45	31	1115	46	32	1050
Low Fire: Low	LOW	2.5	1095	47	33	1070	48	33	1050	49	34	1025	50	35	975	52	37	950
GUIS090_30	HIGH	3.5	1630	42	---	1560	44	---	1550	44	---	1465	47	---	1380	49	35	1275
(35-65)	MED	3.0	1360	50	35	1325	51	36	1290	53	37	1215	56	39	1155	59	41	1070
High Fire: High	MED-LO	2.0	920	---	52	920	---	52	900	---	53	890	---	54	850	---	56	800
Low Fire: Med-Lo	LOW	1.5	770	---	62	750	---	64	740	---	64	730	---	65	690	---	---	660
GUIS090_50	HIGH	5.0	2250	---	---	2185	---	---	2120	---	---	2030	---	---	1975	35	---	1885
(35-65)	MED	4.0	1775	38	---	1750	39	---	1735	39	---	1690	40	---	1650	41	---	1600
High Fire: Med-Lo	MED-LO	3.5	1320	52	36	1315	52	36	1315	52	36	1315	52	36	1280	53	37	1240
Low Fire: Low	LOW	3.0	1180	58	40	1180	58	40	1175	58	41	1170	58	41	1140	60	42	1120
GUIS115_50	HIGH	5.0	2330	37	---	2245	38	---	2165	39	---	2065	41	---	1985	43	---	1885
(35-65)	MED	5.0	2120	40	---	2070	41	---	2020	42	---	1940	44	---	1850	46	---	1775
High Fire: Med-Lo	MED-LO	4.0	1875	45	---	1840	46	---	1800	47	---	1735	49	---	1685	51	35	1600
Low Fire: Low	LOW	3.0	1290	---	46	1275	---	47	1250	---	48	1235	---	48	1210	---	49	1170
GUIS140_50	HIGH	5.0	2455	---	---	2390	---	---	2290	45	---	2200	46	---	2050	50	---	1935
(45-75)	MED	5.0	2050	50	---	2025	50	---	1965	52	---	1890	54	---	1810	56	---	1715
High Fire: Med	MED-LO	4.0	1715	60	---	1700	60	---	1660	62	---	1615	63	---	1555	66	46	1472
Low Fire: Low	LOW	3.5	1450	70	49	1436	71	50	1413	72	51	1380	74	52	1338	-	53	1280
GCIS070_35	HIGH	3.5	1655	---	---	1580	---	---	1500	---	---	1445	35	---	1366	37	---	1280
(35-65)	MED	3.0	1530	---	---	1470	35	---	1400	37	---	1345	38	---	1280	40	---	1210
High Fire: Med-Lo	MED-LO	3.0	1090	47	---	1075	48	---	1055	48	---	1015	50	35	975	52	37	915
Low Fire: Low	LOW	2.5	945	54	38	935	55	38	915	56	39	890	57	40	850	60	42	810
GCIS090_50	HIGH	5.0	2110	---	---	2030	---	---	1960	---	---	1870	---	---	1780	---	---	1680
(45-75)	MED	4.0	1830	---	---	1765	---	---	1710	---	---	1640	---	---	1550	---	---	1470
High Fire: Med-Lo	MED-LO	3.5	1260	54	---	1255	54	---	1230	55	---	1200	57	---	1170	58	---	1115
Low Fire: Low	LOW	3.0	1015	67	47	1000	68	48	980	70	49	964	71	49	930	73	51	875

1. CFM in chart is without filters(s). Filters do not ship with this furnace, but must be provided by the installer. If the furnace requires two return filters, this chart assumes both filters are installed.
2. **Blower speeds for each firing rate are set independant of each other.**
3. All furnaces ship as high speed cooling. Installer must adjust blower cooling speed as needed.
4. For most jobs, about 400 CFM per ton when cooling is desirable.
5. INSTALLATION IS TO BE ADJUSTED TO OBTAIN TEMPERATURE RISE WITHIN THE RANGE SPECIFIED ON THE RATING PLATE.
6. The chart is for information only. For satisfactory operation, external static pressure must not exceed value shown on rating plate. The shaded area indicates ranges in excess of maximum external static pressure allowed when heating.
7 The dashed (---) areas indicate a temperature rise not recommended for this model.
8. The above chart is for U.S. furnaces installed at 0-2000 feet. At higher altitudes, a properly derated unit will have approximately the same temperature rise at a particular CFM, while the ESP at that CFM will be lower.

BLOWER PERFORMANCE SPECIFICATIONS

BTU OUTPUT vs TEMPERATURE RISE CHART





GUIS and GCIS (See model numbers above)

FACTORY WIRED BLOWER MOTOR TO CONTROL CONNECTIONS

FURNACE MODEL	HIGH STAGE **		LOW STAGE *	
* MANUFACTURER'S VARIABLE LETTER	MOTOR SPEEDS	MOTOR TO HEAT	MOTOR SPEEDS	MOTOR TO HEAT
GUIS070C*35	MED LOW	OR-29	LOW	RD-24
GUIS090C*30	HIGH	BK-26	MED-LO	0R-29
GUIS090C*50	MED LOW	OR-29	LOW	RD-24
GUIS115C*50	MED LOW	OR-29	LOW	RD-24
GUIS140C*50	MED HI	BU-23	LOW	RD-24
GCIS070C*35	MED LOW	OR-29	LOW	RD-24
GCIS090C*50	MED LOW	OR-29	LOW	RD-24

*** COOLING BLOWER SPEED

SEE INSTALLATION INSTRUCTIONS TO DETERMINE PROPER COOLING BLOWER SPEED.

COLOR CODE
YL YELLOW
OR ORANGE
VT VIOLET
GN GREEN
BK BLACK
BR BROWN
WH WHITE
BU BLUE
GY GRAY
RD RED

LOW VOLTAGE
LOW VOLTAGE FIELD
HI VOLTAGE
HI VOLTAGE FIELD

IMPORTANT:

READ BEFORE OPERATING OR SERVICING THIS UNIT

1. SET HEAT ANTICIPATOR ON ROOM THERMOSTAT AT 0.7 AMPS.
2. AMANA SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
3. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105°C. USE COPPER CONDUCTORS ONLY.
4. UNUSED BLOWER MOTOR LEADS MUST BE PLACED ON "PARK" TERMINALS OF CONTROL OR TAPED.
5. IF HEATING AND COOLING BLOWER SPEEDS ARE NOT THE SAME DISCARD JUMPER BEFORE CONNECTING BLOWER LEADS. USED ONLY IF HIGH STAGE HEAT AND COOLING USE THE SAME SPEED.
6. IF HIGH STAGE HEAT AND LOW STAGE HEAT SPEEDS ARE NOT THE SAME DISCARD JUMPER BEFORE CONNECTING BLOWER LEADS. USE ONLY IF HIGH STAGE HEAT AND LOW STAGE HEAT USE THE SAME SPEED.
7. DIAGNOSTIC LIGHT: CONTINUOUS ON = INTERNAL LOCKOUT -REPLACE CONTROL; 1 FLASH = EXTERNAL LOCKOUT - CHECK FURNACE; 2 FLASHES - PRESSURE SWITCH STUCK CLOSED; 3 FLASHES - PRESSURE SWITCH STUCK OPEN; 4 FLASHES - OPEN THERMAL PROTECTION DEVICE; CONTINUOUS FLASH - FLAME SENSED - NO CALL FOR HEAT STAT RECOVERY (1/4 SEC. ON, 1/4 SEC. OFF).
8. PLUG CONNECT FOR FURNACE TWINNING.

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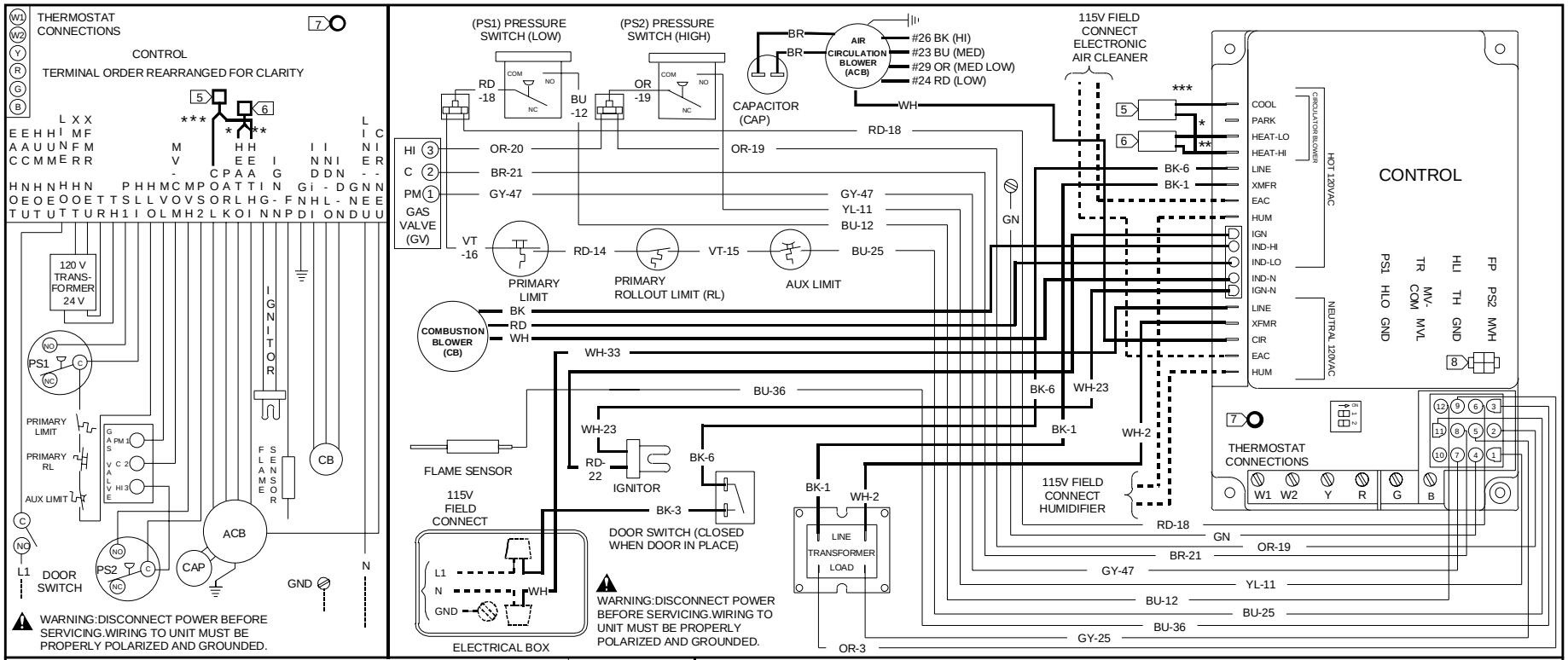
WARNING TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.

WIRING DIAGRAMS

GUIS and GCIS (See model numbers above)



FACTORY WIRED BLOWER MOTOR TO CONTROL CONNECTIONS

FURNACE MODEL	HIGH STAGE **		LOW STAGE *		*** COOLING BLOWER SPEED
* MANUFACTURER'S VARIABLE LETTER	MOTOR SPEEDS	MOTOR TO HEAT	MOTOR SPEEDS	MOTOR TO HEAT	
GUIS070*35	MED LOW	OR-29	LOW	RD-24	SEE INSTALLATION INSTRUCTIONS TO DETERMINE PROPER COOLING BLOWER SPEED.
GUIS090*30	HIGH	BK-26	MED-LO	0R-29	
GUIS090*50	MED LOW	OR-29	LOW	RD-24	
GUIS115*50	MED LOW	OR-29	LOW	RD-24	
GUIS140*50	MED HI	BU-23	LOW	RD-24	
GCIS070*35	MED LOW	OR-29	LOW	RD-24	
GCIS090*50	MED LOW	OR-29	LOW	RD-24	

COLOR CODE
YL YELLOW
OR ORANGE
VT VIOLET
GN GREEN
BK BLACK
BR BROWN
WH WHITE
BU BLUE
GY GRAY
RD RED

LOW VOLTAGE
LOW VOLTAGE FIELD
HI VOLTAGE
HI VOLTAGE FIELD

IMPORTANT:

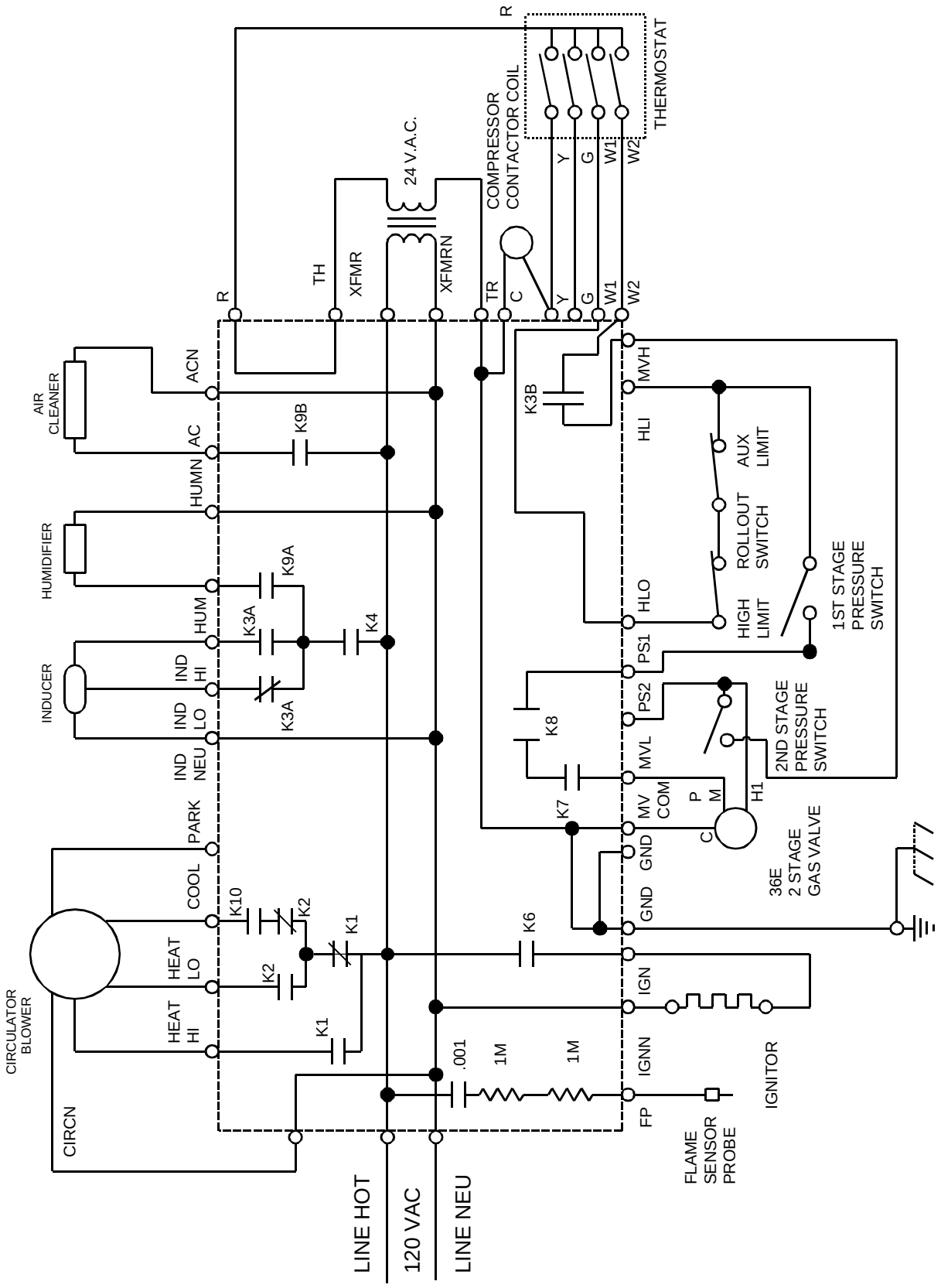
READ BEFORE OPERATING OR SERVICING THIS UNIT

1. SET HEAT ANTICIPATOR ON ROOM THERMOSTAT AT 0.7 AMPS.
2. AMANA SPECIFIED REPLACEMENT PARTS MUST BE USED WHEN SERVICING.
3. IF ANY OF THE ORIGINAL WIRE AS SUPPLIED WITH THE FURNACE MUST BE REPLACED, IT MUST BE REPLACED WITH WIRING MATERIAL HAVING A TEMPERATURE RATING OF AT LEAST 105C. USE COPPER CONDUCTORS ONLY.
4. UNUSED BLOWER MOTOR LEADS MUST BE PLACED ON "PARK" TERMINALS OF CONTROL OR TAPED.
5. IF HEATING AND COOLING BLOWER SPEEDS ARE NOT THE SAME DISCARD JUMPER BEFORE CONNECTING BLOWER LEADS. USED ONLY IF HIGH STAGE HEAT AND COOLING USE THE SAME SPEED.
6. IF HIGH STAGE HEAT AND LOW STAGE HEAT SPEEDS ARE NOT THE SAME DISCARD JUMPER BEFORE CONNECTING BLOWER LEADS. USE ONLY IF HIGH STAGE HEAT AND LOW STAGE HEAT USE THE SAME SPEED.
7. DIAGNOSTIC LIGHT:CONTINUOUS= INTERNAL LOCKOUT-REPLACE CONTROL; 1 FLASH= EXTERNAL LOCKOUT-CHECK FURNACE; 2 FLASHES= PRESSURE SWITCH STUCK CLOSED; 3 FLASHES= PRESSURE SWITCH STUCK OPEN; 4 FLASHES= THERMAL PROTECTION DEVICE OPEN; CONTINUOUS FLASH=FLAME SENSED-NO CALL FOR HEAT STAT RECOVERY: (1/4 SEC. ON, 1/4 SEC. OFF)
8. PLUG CONNECT FOR FURNACE TWINNING.

20208701 REV. 0

WARNING **TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.**

SCHEMATICS



GUIS and GCIS

WR50A51-215 INTEGRATED IGNITION CONTROL

This schematic is for reference only. Not all wiring is as shown above, refer to the appropriate wiring diagram for the unit being serviced.

WARNING

TO AVOID POSSIBLE ELECTRICAL SHOCK, PERSONAL INJURY, OR DEATH, DISCONNECT THE POWER BEFORE SERVICING.